

PROJECT NUMBER : 1101
PROJECT TITLE : Entomological Research
PROJECT LEADER : D. L. Faustini
PERIOD COVERED : July, 1991

I. CIGARETTE BEETLE (CB) CONTROL PROGRAM

- A. Objectives:** (1) To determine if phosphine resistance is occurring in the feral CB, (2) to determine if physiological differences are present in laboratory and field colonies regarding methoprene, and (3) to investigate alternatives to conventional tobacco pesticides.
- B. Results:** (1) Cultures maintained in methoprene were established using KABAT® feral CBs collected from Maury St. (Whrs. #28) and placed in a mobile insectary; (2) a proposal has been written to investigate esterase activity as an indicator of resistance to methoprene in the CB; and (3) to replace the inbred laboratory colony of CBs, wild populations are being collected and established in the insectary.
- C. Plans:** (1) Continue to collect KABAT® CB ferals and increase the culture size for use in CB physiological feeding studies; (2) set up a laboratory to perform esterase activity measurements; (3) wild populations of CBs will be collected from Kenbridge, Va. and other suitable sites for consideration as replacement cultures for the inbred lab colony; (4) continue to culture Manduca sexta larvae and collect purge fluid; and (5) S-hydroprene and kinoprene (IGRs) will be screened against the CB in feeding bioassays.
- D. References:**
Minor, M. F. Notebook No. 9024, pp. 12 and 28.

II. SERVICE TO OTHERS

- A. Objective:** Provide technical services to areas outside R&D.
- B. Results:** DataTrace® temperature profiles and CB efficacy studies in the Direct Cylinder Conditioner (DCC) were conducted in the Cabarrus M/C for PM Engineering personnel. CB efficacy tests in the Admoist Cylinder were conducted at Park 500 for PM Engineering personnel. Fourteen insect-related consumer complaints were handled for the QA Department.
- C. Plans:** Conduct CB mortality tests in the Direct Cylinder Conditioner start-up in Cabarrus (July 22-26, 1991).

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D. References:

Minor, M. F. Notebook No. 9024, p. 28.

Tenhet, S. W. Notebook No. 9091, p. 13.

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